FACULTY OF ELECTRICAL ENGINEERING
MARA UNIVERSITY OF
TECHNOLOGY

FINAL REPORT OF DIPLOMA
PROJECT

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TITLE: GO-NO-GO 555-TIMER

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ABSTRACT

We are pleased to present a project that entitle Go No-Go 555 tester. We feel this project will be successful in introducing student the function of 555 timer and its operation, also the other ic's which is flip-flop (74107) and NAND gate (7400). With considerable help from students and instructor, we are reconstructed the actual circuit to improve its functions. Our main goal are to increase student understanding of 555 timer tester, especially the components which in this circuit. In this project, we covered all components, discussing their characteristic and how the component operate, also operation of the circuit. We also include file of this circuit, which have drawn in electronic workbench software. So that we can learn all the waves and networking patterns where can be seen in practical work. Some waveforms have discussed in this report and the complete report of 555-timer tester is in report. Hardware, which had done, gives more description about this project. Design circuit on PCB, arranging component. The 555 timers is one of the most useful electronic devices in the market. Sometimes it is impossible to imaging our life without it. Signetics first introduced the 555 timers but today almost every semiconductor firm manufactures it. For this reason it is very cheap and broadly available. Here some peculiar uses of the 555 are going to be presentiment give more information about the circuit characteristic and more specific description.

ACKNOWLEDGEMENT

We would like to express our appreciation for the contribution of Tony Van Ron. His contributions of the 555-timer idea have greatly enhanced our original idea for this project (KEU 380). There are many peoples had been our revision source. Special thanks to Pn. Fadhilah whom conduct and had inspired us to finish this project. Unforgettable also all friends who had help us with their energy, ideas and financial. The many revisions of the text were guided by careful and through reviews from our supervisor.

All this debt gratitude is special thank from us, perhaps this project will give a useful information and reference to student who studied in this field. Reason of this project also, to fulfill the requirement in diploma in electrical engineering at UiTM. This subject consists of 3 credits on our final coursework.

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND THEORY

This project purpose is to determine 555 timers is on test. 555 timers is tested to see whether it is on good condition or not. The circuit consist five ic's which is three different kind. There are 555 timers, 74107 (jk flip-flop) and 7400 (nand gate). This project will explain how the function of this circuit, and its application also the goodness in electronic field.

1.2 SCOPE OF WORK

First section will introduce us to 555-timer i.c, how the i.c function, description of the i.c, the i.c operation – astable and monostable. Also briefly explain the construction of 555 timers, where there are control flip-flop, upper and lower comparator. Second section will discuss about 74107 (jk flip-flop), understanding the combination and sequence logic circuit. Knowing other flip-flop exist such as SR flip-flop. D flip-flop and T flip-flop. We also include the JK flip-flop table and how its function. Third section will explain of 7400 quad nand get, the internal component and its characteristic. And then forth sections briefly discuss other component that involve in the circuit. e.g capacitor, resistor, LED. Also explain on their functional and the impotencies. Other section will describe the functional diagram how the circuit function with troubleshooting that may occur.

Hardware construction, explain how to construct the hardware, equipment needed in process and error that maybe disturb our project goal.